GREEN OWL TAVERN (PWS 1090045)
SOURCE WATER ASSESSMENT REPORT

December 18, 2000

State of Idaho
Department of Environmental Quality

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your particular drinking water source is based on a land use inventory within a 1,000 foot radius of your drinking water source, sensitivity factors associated with the source and characteristics associated with either your aquifer or watershed in which you live.

This report, *Source Water Assessment for Green Owl Tavern (1090045),* located in Bonner County, Idaho, describes the public drinking water system, the associated potential contaminant sources located within a 1,000' boundary around the drinking water source, and the susceptibility (risk) that may be associated with any associated potential contaminants. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this system. **The results should <u>not be</u> used as an absolute measure of risk and is not intended to undermine the confidence in your water system.**

The Green Owl Tavern drinking water system consists of one well, which was drilled in 1999 to replace the surface water system that the tavern had used in the past. The well is located directly in front of the tavern and is 505 feet deep. According to a recent survey completed by IDEQ the well is located approximately 180 feet from Priest River. Studies, including a microscopic particulate analysis (MPA), will be completed in the near future to determine if the well is under the direct influence of the river. The well was assigned a moderate system construction score. The well is properly constructed with intact sanitary and surface seals, but is located within the 100-year floodplain. Additionally, the Idaho Department of Water Resources (IDWR) *Well Construction Standards Rules (1993)* require all public water systems (PWSs) follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works (1997)* during construction. Various aspects of the standards can be assessed from well logs. Table 1 of the *Recommended Standards for Water Works (1997)* states that 6" steel casing requires a thickness of 0.280". The Green Owl Tavern well uses 0.250" thick casing.

There are five potential contaminant sources located in the source water assessment area. Two of the sources are sites used for cattle grazing, one site is a hay field and the last two sites include a septic pump station connected to two subsurface infiltration beds and a septic tank. The agricultural sites may be treated with pesticides/insecticides and fertilizers, which contributed to the well receiving a moderate score in the categories of Inorganic Chemicals (IOCs) and Synthetic Organic Chemicals (SOCs). Points were also added in the IOC category for the septic pump station/infiltration beds and septic tank because of the presence of nitrates in septic systems. The well received a low score for Volatile Organic Chemicals (VOCs) because no significant sources of VOCs are located in the source water assessment area. The well's score for microbial sources of contamination that might come from the cattle grazing areas surrounding the well or septic systems was moderate.

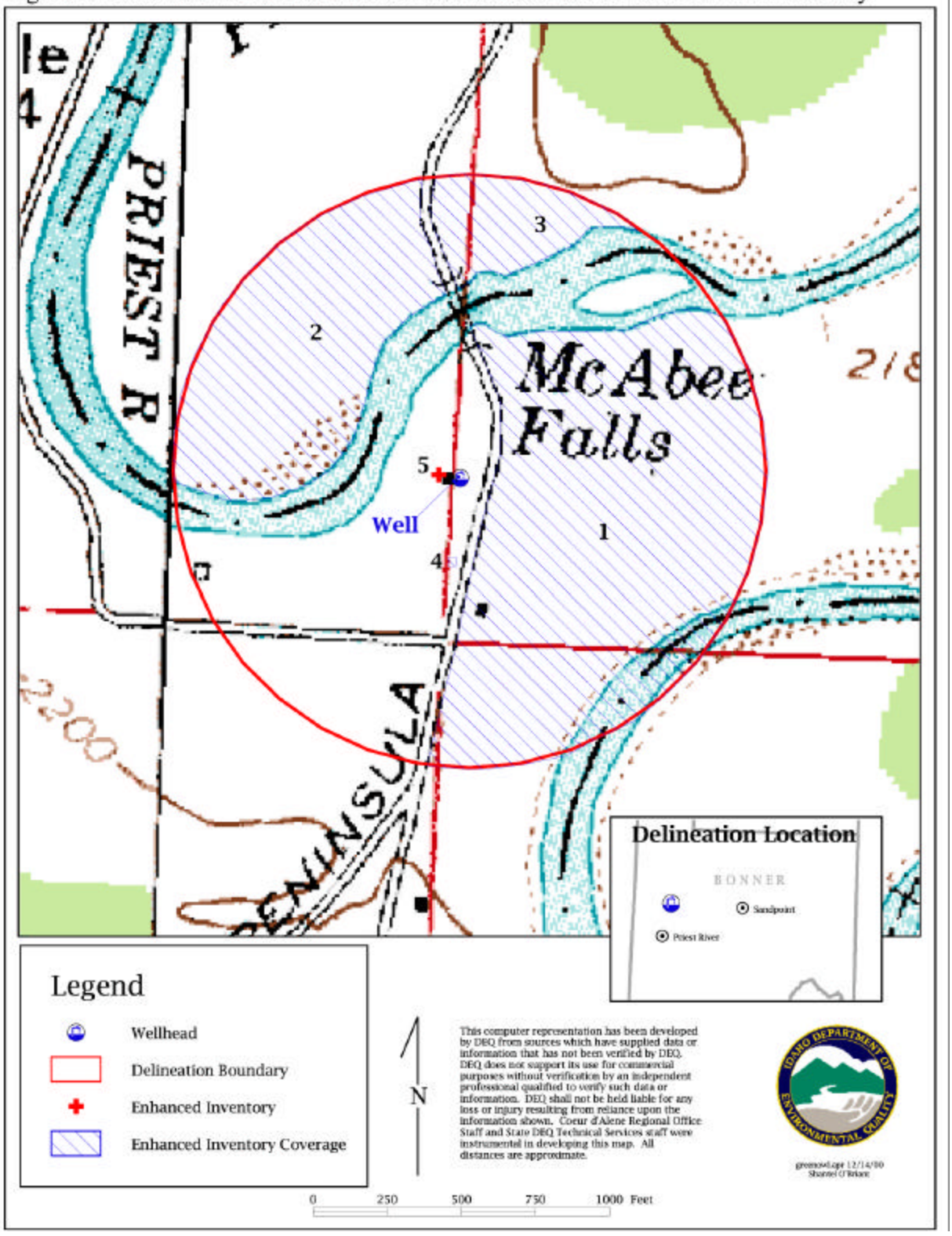
The well's overall susceptibility rating is moderate in all categories except for VOCs for which it received a low score. A copy of the susceptibility analysis for your system along with a map showing any potential contaminant sources is included with this summary. Information regarding the potential contaminants within the 1,000' boundary have been summarized and included and are shown below.

Table 1.

SITE #	Source Description	Source of Information	Potential Contaminants
1	Cattle Ranch	Enhanced Inventory	IOC, SOC, Microbial
2	Hay Field	Enhanced Inventory	IOC, SOC
3	Cattle Ranch	Enhanced Inventory	IOC, SOC, Microbial
4	Septic Pump Station and Subsurface Infiltration Beds	Enhanced Inventory	IOC, Microbial
5	Septic Tank	Enhanced Inventory	IOC, Microbial

IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Figure 1. Green Owl Tavern Delineation Location and Potential Contaminant Inventory



This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

Green Owl Tavern should focus source water protection activities on the implementation of practices aimed at ensuring only necessary amounts of agricultural chemicals are used within the designated source water area and make sure that the wellhead is protected from surface water runoff that may originate in cattle grazing areas. The water system operator may want to establish a dialogue with the local landowner related to the effects of agricultural chemicals on drinking water sources. Source water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Service, and the Natural Resources Conservation Service. The system operator should also ensure proper operation and maintenance of the wastewater treatment system located within the source water assessment area and monitor for microbial contamination closely. Source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

For assistance in developing source water protection strategies please contact Alan Miller at the Coeur d'Alene regional IDEQ office at (208) 769-1422.

DEQ website:

http://www.deq.state.id.us

Attachment A

Green Owl Tavern
Susceptibility Analysis
Worksheet

Ground Water Final Susceptibility Scoring

0-5 = Low Susceptibility

6-12 = Moderate Susceptibility

13-18 = High Susceptibility

Ground Water Susceptibility Report Public Water System Name : GREEN OWL TAVERN Well# : WELL

Public Water System Number 1090045 12/8/00 2:16:16 PM

1. System Construction		SCORE			
Drill Date	10/14/99				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	2000			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	YES	0			
Highest production 100 feet below static water level	YES	0			
Well located outside the 100 year flood plain	NO	1			
Total System Construction Score		2			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	NO	0			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	YES	0			
Total Hydrologic Score		1			
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	RANGELAND, WOODLAND, BASALT	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		0	0	0	0
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	5	0	3	4
(Score = # Sources X 2) 8 Points Maximum		8	0	6	8
Sources of Class II or III leachable contaminants or	YES	5	0	3	
4 Points Maximum		4	0	3	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	25 to 50% Irrigated Agricultural Land	2	2	2	2
Total Potential Contaminant Source / Land Use Score - Zone 1B		14	2	11	10
Cumulative Potential Contaminant / Land Use Score		14	2	11	10
4. Final Susceptibility Source Score		7	4	6	7
5. Final Well Ranking		Moderate	Low	Moderate	Moderate

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ASuperfund@ is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.